

Nos. 1-12, 1961



METALLURGIST

*A translation of METALLURG, the monthly
industrial technical journal of the
Ministry of Iron and Steel of the USSR*

Translation Published October, 1961

No. 1, pp. 1-52

January, 1961

CONTENTS

	PAGE	RUSS. PAGE
A Powerful Rise in Ferrous Metallurgy. <u>S. M. Filippov</u>	1	1
THE BLAST-FURNACE INDUSTRY		
Fluxed Sinter with Increased Magnesia Content. <u>D. G. Khokhlov</u>	6	4
Reducing the Sulfur Content of Iron in the Blast-Furnace Smelting Process. <u>Kanamori Kuro</u>	8	6
The Operation of "Floating" Coolers in the Stack of a Large Blast Furnace. <u>R. D. Kamenev</u> and <u>M. A. Sukonnik</u>	10	7
At the YuGOK Sintering Plants. <u>A. V. Sheleketin</u> and <u>A. M. Shevchenko</u>	13	10
New Books	16	12
THE STEELMAKING INDUSTRY		
Preliminary Deoxidation of Tube Steels. <u>V. K. Laptev</u>	17	13
The Use of Steam for Boosting Combustion in Open-Hearth Furnaces. <u>A. Bikhler</u>	19	15
Flushing the Checkerwork of Large-Capacity Open-Hearth Furnaces. <u>M. G. Kozhanov</u> , <u>A. Ya. Raskevich</u> , <u>A. I. Kazakov</u> , and <u>A. M. Kulakov</u>	21	17
Basic Refractory Wastes—Valuable Raw Material. <u>M. N. Kaibicheva</u> , <u>N. I. Fadeeva</u> , <u>N. A. Tulin</u> and <u>M. I. Shatalov</u>	23	18
Asbestos Curtains on Charging Machines (Industrial Safety). <u>G. Ézenkin</u>	25	20
A Useful and Necessary Book for Open-Hearth Workers (New Books). <u>A. M. Lekhtik</u>	25	20
ROLLED AND TUBULAR PRODUCTS		
Ground Stainless Steel Plates. <u>M. I. Yudin</u> and <u>N. A. Troshchenkov</u>	27	21
An Automatic Gage for Measuring the Width of Rolled Products. <u>É. Yu. Gutnikov</u> and <u>N. N. Chuzo</u>	30	23
Lubrication in Tube Rolling. <u>V. Ya. Osadchii</u> and <u>R. M. Golubchik</u>	32	26
Pickling Bars without the Use of Inserts. <u>V. F. Isupov</u>	34	27
Improvements in the Equipment of Rolling Shops. <u>V. P. Emel'yanov</u>	34	28
SCHOOL OF ADVANCED EXPERIMENTS		
Optimum Rolling-Schedule for Blooming Mills. Report to Interplant Study Group on Cogging Mills. <u>L. V. Andreyuk</u>	38	31
The Operation of Large Capacity Blast Furnaces. <u>E. V. Kochinev</u>	42	34
New Books	43	34

METALLURGIST

*A translation of METALLURG, the monthly
industrial technical journal of the
Ministry of Iron and Steel of the USSR*

Translation published October, 1961

No. 2, pp. 53-100

February, 1961

CONTENTS

	PAGE	RUSS. PAGE
For Economy, Thrift, and Cost Reduction. B. A. Chusov	53	1
THE BLAST FURNACE INDUSTRY		
The Screening of the Hot Sinter. <u>L. M. Rudakov and I. I. Gorstein</u>	55	3
Errors in the Regulation of Gas Flow. <u>N. N. Chernov</u>	56	4
The Triple Bell Hopper. <u>N. K. Borodenchik, A. I. Dikalov, D. A. Storozhik, and A. M. Khmara</u> ..	59	7
Dust Extraction in Sintering Plant Furnace Chimneys. <u>N. S. Karpushinskii</u>	63	11
All-Union Conference of Blast-Furnace Operators and Sinter-Plant Operators. <u>B. N. Starshinov</u> and <u>V. K. Antonov</u>	66	13
New Books.	68	14
THE STEELMAKING INDUSTRY		
Operation of a Furnace with Heat Insulated Roof. <u>V. P. Borodin, G. F. Marchenkovskii,</u> <u>P. É. Darmanyan, A. A. Yudson, and B. N. Kurochkin</u>	69	15
A New Design of a Mold Trolley. <u>F. V. Palaguta</u>	72	17
Improving the Tongue of Flame in the Working Space. <u>G. I. Moiseevich and E. M. Kondrat'ev</u> ..	74	20
ROLLED AND TUBULAR PRODUCTS		
Mill for Rolling Periodic Shapes. <u>N. P. Borodii</u>	78	23
Spreading Passes on a Strip Mill. <u>M. M. Shternov and N. V. Litovchenko</u>	80	25
Repairing Units of Rolling Equipment. <u>G. V. Antsyshkin</u>	81	26
Roller with a Hair Brush for Cleaning Sheets. <u>V. P. Emel'yanov</u>	83	27
Recuperative Soaking Pits with Top Two-Way Heating. <u>V. I. Kurpe and G. N. Khristoforov</u>	83	28
Resistance of the Muffles of Bell-Type Furnaces. <u>F. S. Astaf'ev</u>	85	29
Increasing the Quality of Thin-Walled Tubes. <u>E. A. Svetlitskii and B. I. Mindlin</u>	86	31
145 Years of Zlatoust Engraving.	88	32
GENERAL PROBLEMS		
The Glorious Work of the Tagil Workers.	89	33
PRODUCTION OF SMALL COMPONENTS		
Drawing Wire Rod from Bessemer Metal. <u>A. M. Bichuch</u>	92	35
METALLURGY ABROAD		
Increased Production of Czechoslovak Metallurg. <u>Jaroslav Bechvarzh</u>	96	38

METALLURGIST

*A translation of METALLURG, the monthly
industrial technical journal of the
Ministry of Iron and Steel of the USSR*

Translation published October, 1961

No. 3, pp. 101-150

March, 1961

CONTENTS

	PAGE	RUSS. PAGE
Prospectors of the Future	101	1
THE BLAST FURNACE INDUSTRY		
Improved Sintering Charge Ignition. A. P. Ryazantsev, Yu. V. Simakov, and S. V. Bazilevich	105	4
The Movement of Gases and Materials in the Blast-Furnace. V. I. Loginov	107	6
The Magnetizing Calcination of Ores (In countries, members of SEV). G. V. Gubin	110	9
Louver-Type Dust-Catchers for Gas Cleaning. V. D. Kanfer and M. S. Shklyar	113	12
THE STEELMAKING INDUSTRY		
The Use of Titanium Sponge in the Deoxidation of Steel. A. N. Vasilyev and S. I. Bogachev	116	14
Treatment of Liquid Steel with Solid Synthetic Mixtures. V. A. Kudrin, E. V. Vinnichenko, G. V. Sviderskii, V. P. Tunkov, and O. N. Sokolov	119	16
Nickel Economy in Electric Steel-Making Production. A. F. Kablukovskii and A. A. Pankratov	120	17
The Rapid Burning-In of New Hearths. V. K. Laptev	125	22
ROLLED AND TUBULAR PRODUCTS		
Rolling L-Shaped Steel. B. M. Ilyukovich	127	24
On the Selection of Rational Regimes for Reductions in Cold-Rolling Tin-Plate. P. T. Kovtun	130	27
High-Speed Roll Changing of the Stands of the Continuous Merchant Mill. Ya. E. Asser and M. M. Shapiro	133	32
Reconditioning the Cases of Cutting Torches. L. N. Gorodetskii	135	32
PRODUCTION OF SMALL COMPONENTS		
The Use of Powdered-Metal Hard Alloys for Heading of Fasteners. L. S. Feygin and E. A. Limina	137	33
EFFICIENCY AND INVENTIVENESS		
Creative Daring. I. Shapoval	140	35
GENERAL PROBLEMS		
Experience of Operating Gas-Regulating Points. A. M. Fleyshmakher	141	36
Casting of Stone. B. Kh. Khan	142	36
METALLURGY ABROAD		
Large Metallurgical Center of the Korean People's Democratic Republic. A. M. Shokin	144	38
INFORMATION FROM THE NEWSPAPERS		
M. S. Kovarskii	148	40
The I. P. Bardin Central Scientific Research Institute of Ferrous Metallurgy Announces a Competition	149	Back cover

METALLURGIST

*A translation of METALLURG, the monthly
industrial technical journal of the
Ministry of Iron and Steel of the USSR*

Translation Published October, 1961

No. 4, pp. 151-202

April, 1961

CONTENTS

	PAGE	RUSS. PAGE
We Will Meet the Resolutions of the 22nd Conference of the Communist Party of the Soviet Union	151	1
THE BLAST FURNACE INDUSTRY		
The Effect of Material Transfer on the Change in Sieve Composition of Sinter. <u>L. M. Rudakov</u> and <u>I. I. Gorshtein</u>	156	4
The Optimum Composition of Blast-Furnace Slag at the Southern Plants. <u>N. N. Chernov</u> and <u>A. N. Chechuro</u>	159	6
In the Blast-Furnace Department of the Magnitogorsk Metallurgical Combine. <u>V. P. Emel'yanov</u>	161	8
THE STEELMAKING INDUSTRY		
An Electric Furnace with Sloping Walls and Split Housing. <u>I. I. Kulakov</u>	165	11
The Quality of Converter Metal. <u>N. I. Beda</u> and <u>P. Ya. Ryzhkov</u>	168	13
At the Magnitogorsk Metallurgical Combine Open-Hearth Department.	171	16
The Use of Sorted and Graded Scrap.	173	18
Cleaning the Regenerator Checkerworks of Open-Hearth Furnaces. <u>G. A. Petrov</u> , <u>A. P. Klyuchero</u> , and <u>B. N. Shisharin</u>	174	19
ROLLED AND TUBULAR PRODUCTS		
Economical Rolled Shapes from Alloy Steel. <u>M. V. Shuralev</u> and <u>S. G. Nekrasov</u>	177	21
Production of Rolled Ball-Bearing Steel. <u>G. A. Khasin</u> and <u>V. G. Chikina</u>	179	23
Designing Box Passes. <u>I. P. Shulaev</u>	183	26
An Efficient Technology for Grinding Rolled Steel. <u>V. K. Pasechnik</u>	186	28
Heat Insulation of the Hearth Pipes. <u>V. N. Astsaturov</u>	188	30
Device for Manipulating Strip. <u>V. I. Sorokin</u> and <u>L. N. Goredetskii</u>	190	32
Elimination of Dust from the Working Stand of a Mill. <u>M. V. Pal'shin</u>	192	33
EXPERIENCE OF INNOVATORS		
Creative Cooperation. <u>Ya. R. Bukhman</u>	193	34
METALLURGY ABROAD		
Charging the Caldron.	194	35
Three Events	196	36
INTERNATIONAL RELATIONS		
In the Land of Constant Sunshine. <u>V. A. Podzerko</u>	197	37
NEW BOOKS		
How the Plant Became Profitable, <u>I. M. Ektov</u> . Reviewed by <u>M. Kamenskii</u>	200	39
Improving the Sanitary Conditions of Iron-Ore Sinter Plants, <u>A. V. Sheleketin</u> and <u>N. S.</u> <u>Karpushinskii</u> . Reviewed by <u>R. S. Suprunenko</u>	201	39
CHRONICLE		
The Fourth Plenum of the Scientific-Technical Societies of Ferrous and Nonferrous Metallurgy. <u>I. Polyak</u>	202	40

METALLURGIST

*A translation of METALLURG, the monthly
industrial technical journal of the
Ministry of Iron and Steel of the USSR*

Translation Published October, 1961

No. 5, pp. 203-246

May, 1961

CONTENTS

	PAGE	RUSS. PAGE
New Techniques at the Ferrous Metallurgy Plants of the Russian Soviet Federated Socialist Republic (RSFSR) in 1961: <u>N. I. Sheftel'</u>	203	1
THE BLAST-FURNACE INDUSTRY		
The Utilization of Fuel Oil in Blast-Furnace Production. <u>K. V. Malikov, G. N. Suntsov, and V. L. Pishvanov</u>	206	3
<u>S. I. Sapiro, A. A. Fofanov, P. G. Okhotnikov, and Yu. S. Borisov</u>	207	5
Increasing the Stability of Pastes for Tapping Holes and Troughs. <u>N. F. Slin'ko and G. I. Fedorenko</u>	210	7
Automatic Control of the Tilting Rate of the Ladle During the Casting of Iron. <u>V. I. Beloshabskii and A. L. Shtainer</u>	212	10
THE STEELMAKING INDUSTRY		
Use of Scrap Metal in Converter Production. <u>O. N. Kostenetskii</u>	216	13
A Hot Top with Air Spaces in the Wall. <u>F. F. Sviridenko, E. A. Kazachkov, N. P. Vasil'kovskaya, and I. I. Lesenko</u>	218	15
ORGANIZATION AND INVENTIONS		
In the Open-Hearth Departments of the USSR	221	18
ROLLED AND TUBULAR PRODUCTS		
Elongation in a Rectangular Pass. <u>I. P. Shulaev</u>	227	23
Possible Reductions in Edging Passes. <u>N. V. Litovchenko</u>	228	24
Surface Defects in Rolling. <u>P. Ya. Ryzhkov and R. M. Shereshevskaya</u>	229	25
The Use of Rolls Built Up by Welding. <u>A. N. Nesmachnyi</u>	231	27
Increase in Production Capacity of a Wheel-Rolling Mill. <u>M. Yu. Shifrin</u>	232	28
The Conversion of Reheating Furnaces from Fuel Oil to Natural Gas. <u>I. I. Shalamov, E. N. Dubinskii, A. E. Prikhozhenko, and G. E. Prikhozhenko</u>	234	30
A Machine for Assembling and Dismantling Rolls. <u>A. P. Koshka</u>	236	32
SCHOOL OF ADVANCED EXPERIENCE		
Steel Pouring at Ukrainian Plants.	238	33
ORGANIZATION AND INVENTIONS		
Let Us Introduce All That Is Valuable and Advanced. <u>Ya. L. Granovskii</u>	243	36
A Contribution of the Efficiency Experts of the "Elektrostal'" Plant. <u>F. Stadnik</u>	244	37
New Books. "Treatment of Steel," by D. M. Kemp and K. B. Francis.	246	38
New Books. "Finishing and Threading of Pipes," by N. B. Rozenfel'd and P. A. Nabatov.	246	40

METALLURGIST

*A translation of METALLURG, the monthly
industrial technical journal of the
Ministry of Iron and Steel of the USSR*

Translation published November, 1961

No. 6, pp. 247-300

June, 1961

CONTENTS

	PAGE	RUSS. PAGE
Good Health and Safe Working Conditions for Metallurgical Workers. <u>A. Rudnev</u>	247	1
THE BLAST-FURNACE INDUSTRY		
The Blowing-In of Blast-Furnaces of 1719 m ³ Volume (Based on the reports of an Inter-Works course). <u>E. V. Kochinev, B. N. Starshinov, V. K. Kornev, and Yu. A. Popov</u>	250	3
Errors in Gas Flow Control and Burden Distribution. <u>Yu. A. Orlov</u>	255	7
The Erosion of Refractory Lining in the Blast-Furnaces of 1719 m ³ Volume. <u>I. M. Galemin and N. K. Fridman</u>	257	9
THE STEELMAKING INDUSTRY		
Experience in Operating a 400 Ton Open-Hearth Furnace on High-Pressure Natural Gas. <u>G. A. Podol'skaya</u>	261	13
Rapid Burning-In of Furnace Bottom. <u>V. L. Maksimov</u>	266	17
All-Union Conference on the Production of Semikilled Steel. <u>B. S. Kurapin and A. A. Kazakov</u> ..	267	18
From the Newspapers	269	19
ROLLED AND TUBULAR PRODUCTS		
The Production of Economic Cold-Bent Sections. <u>I. S. Trishevskii, L. N. Soroko and A. S. Naidenov</u>	271	20
Improving the Quality of Sheet and Plate Rolls. <u>A. S. Beshlik</u>	274	23
Furnace for Hardening Rails. <u>G. N. Kryukov and I. I. Kharybin</u>	277	26
New Books	281	29
EXPERIENCE OF INNOVATORS		
The Working Method of Steelworker V. I. Boldyrev. <u>V. K. Laptev and Z. N. Sarukanyan</u>	282	30
SCHOOL OF ADVANCED EXPERIENCE		
Rolling of Light-Weight I-Beams, Channels, and Angles	285	32
METALLURGY ABROAD		
"Ferrous Metallurgy in the Czechoslovak Socialist Republic." <u>Yu. L. Livovarov</u>	288	34
TOWARD SAFETY IN WORKING		
The Protection of Metal Workers from Radiant Heat. <u>A. A. Malykh</u>	292	37
FROM THE NEWSPAPERS	295	39
NEW BOOKS	297	40

METALLURGIST

*A translation of METALLURG, the monthly
industrial technical journal of the
Ministry of Iron and Steel of the USSR*

Translation published December, 1961

No. 7, pp. 301-350

July, 1961

CONTENTS

	PAGE	RUSS. PAGE
Let Us Appropriately Celebrate Metallurgist's Day	301	1
The Industrial Innovators Speak	302	2
THE BLAST-FURNACE INDUSTRY		
Blast-Furnace Operation with the Addition of Natural Gas to the Blast. <u>B. N. Starshinov,</u> <u>I. V. Kotel'nikov, V. I. Sinitskii, M. L. Lavrent'ev, and V. D. Sinitskii</u>	306	4
Blowing-In the Blast-Furnace on Ferromanganese. <u>B. M. Nosovitskii, T. I. Papin, V. D. Tsys', and</u> <u>Kh. A. Akhmadeev</u>	310	8
THE STEELMAKING INDUSTRY		
Heating the Open-Hearth Furnace with a Mixture of Coke-Oven and Natural Gases. <u>M. M. Khil'ko and M. S. Shklyar</u>	313	11
Hydraulic Control of Steel Ladle Stopper Mechanism. <u>I. A. Livenets</u>	316	13
Experience in the Campaign to Reduce the Cost of Steel (Read at the Conference of Metallurgists of the Chelyabinsk Council of People's Commissars). <u>S. S. Zubkov</u>	320	17
Four-Step Brick Lining of Steel Ladles. <u>L. I. Kovalenko</u>	322	19
ROLLED AND TUBULAR PRODUCTS		
Rolling Light-Weight Sections on the 550-Mill. <u>E. A. Demidovich and N. I. Pindyurin</u>	323	20
Stamping Metal in the Production Line. <u>G. S. Yakimenko and B. M. Barbashin</u>	327	23
An Undriven Stamping Machine on the Rail and Beam Mill. <u>L. N. Gorodetski and L. S. Zadorozhnyi</u> .	329	25
EXPERIENCE OF INNOVATORS		
Outstanding Metallurgists. <u>G. Suvorov, A. Khinkis, and M. Churilin</u>	331	27
Advance Guards on the Future Reach New Frontiers. <u>N. Subbotin</u>	335	30
For Communist Labor.	338	32
The Steelmakers of Krivoi Rog. <u>N. D. Gromov</u>	344	37
GENERAL PROBLEMS		
A Railroad Car for Transporting Calcined Dolomite. <u>V. Z. Lavrenov, V. Ya. Tsekhmeister, and</u> <u>S. M. Livshits</u>	349	40

METALLURGIST

*A translation of METALLURG, the monthly
industrial technical journal of the
Ministry of Iron and Steel of the USSR*

Translation published January, 1962

No. 8, pp. 351-400

August, 1961

CONTENTS

	PAGE	RUSS. PAGE
Maximum Use of Reserves—A Guarantee for the Successful Fulfillment of Pledges	351	1
THE BLAST-FURNACE INDUSTRY		
Regulating the Operation of the Blast-Furnace by Pressure Drops. <u>M. M. Gladkii</u>	355	4
Flame Pulsation in the Air-Heater Burners. <u>M. L. Larvrent'ev and A. A. Berdnik</u>	357	6
Safety in Blast-Furnace Production. <u>P. M. Mironov</u>	359	8
THE STEELMAKING INDUSTRY		
Experience in Operating Open-Hearth Furnaces with Natural Gas. <u>A. E. Prikhozhenko</u>	362	10
The Regulation of Overhauls of the Open-Hearth Furnace. <u>I. D. Vikhrev</u>	365	13
Packing the Floor of the Open-Hearth Furnace with Powdered Dolomite. (Translated from German) <u>G. Zyuptits and B. Podzimen</u>	369	16
ROLLED AND TUBULAR PRODUCTS		
A Change in the Design of the Edging Groove. <u>A. T. Bykadorov</u>	374	21
Effective Lubricants for Rolling Thin Steel Sheet. <u>I. K. Tokar' and I. A. Chamin</u>	378	24
Experimental Rolling of Ingots in Pairs on the Slabbing Mill. <u>L. V. Andreyuk</u>	378	24
In the Rolling Shops of the Country	379	25
HARDWARE PRODUCTION		
Automation of Heat-Treatment Furnaces Operating According to a Present Program. <u>I. M. Gel'fand and L. F. Hernandez</u>	384	29
NEW BOOKS		
Handbook for Special Works	386	31
Steel Cables	387	31
EXPERIENCE OF INNOVATORS		
The Working Experience of Senior Foreman D. M. Bartolish. <u>M. I. Esin and V. V. Makrushin</u>	388	32
The People Decide Everything. <u>M. Pan'shin</u>	389	33
SCHOOL OF ADVANCED EXPERIENCE		
Mechanization of the Dressing and Finishing Sections. <u>A. F. Zinov'ev</u>	391	34
INTERNATIONAL RELATIONS		
In Austria. <u>A. Egorichev</u>	394	35
METALLURGY ABROAD		
Ferrous Metallurgy of the Hungarian People's Republic. <u>Ishtvan Garambegli</u>	398	38
In the Rich Storerooms of the Urals. <u>E. Filisteev</u>	400	39

METALLURGIST

*A translation of METALLURG, the monthly
industrial technical journal of the
Ministry of Iron and Steel of the USSR*

Translation published February, 1962

No. 9, pp. 401-454

September, 1961

CONTENTS

	PAGE	RUSS. PAGE
The Expansion of Steel Production under Communism.	401	1
THE BLAST-FURNACE INDUSTRY		
Eliminating Pulsating Burning in Air Heaters. <u>A. N. Chechuro, I. L. Kolesnik, and Yu. F. Yashin.</u>	404	3
Installing Air Heaters in a Large Blast Furnace. <u>Yu. A. Vinogradov.</u>	406	5
Design of the Parts of an Ore Grab. <u>L. N. Gorodetskii.</u>	407	6
Improvement in the Design of Junctions and Parts of Pouring Machines. <u>V. F. Pashinskii.</u>	408	6
Prediction of the Thermal Conditions of a Blast Furnace during Smelting. <u>L. A. Byalyi and I. P. Yudin.</u>	410	8
Conference on the Direct Extraction of Iron from Its Ores. <u>V. F. Knyazev.</u>	411	9
THE STEELMAKING INDUSTRY		
Rapid Methods of Repairing and Fetting a New Floor. <u>S. N. Kondrat'ev, A. P. Klyuchero, V. G. Udovenko, I. A. Shirnin, and Zh. A. Vydrina.</u>	412	10
Large-Unit Installation of the Superstructure of the Open-Hearth Furnace with Its Refractory Masonry Using a Method of Mounting. <u>A. S. Gal'perin.</u>	416	13
Blind-Bottom Molds with Walls of Uniform Thickness. <u>L. A. Bol'shakov and E. K. Turchenkova.</u>	418	16
Casting Steel under a Protective Layer of Mica. <u>S. P. Bakumenko, A. M. Svistunov, and E. V. Verkhovtsev.</u>	420	17
Extending the Life of Slag Pots. <u>V. A. Ivanov.</u>	422	18
Packed Materials for Lining the Gates of the Charging Windows of the Open-Hearth Furnace. <u>M. D. Luzyanin, M. M. Dvorkind, and V. S. Korshunov.</u>	423	18
The Reduction of Transverse Cracks in Structural Steel Ingots. <u>V. A. Nosov and N. N. Vlasov.</u>	424	19
Automating the Teeming of Steel. <u>V. D. Smolyarenko.</u>	425	20
ROLLED AND TUBULAR PRODUCTS		
A New Economical Profile. <u>M. V. Shuralev, S. G. Nekrasov, and S. G. Galega.</u>	429	23
Experimental Rolling of Thick Plates from Converter Steel. <u>S. M. Naftulovich.</u>	431	24
Contact Seals for Sealing Rotating Shafts. <u>L. I. Mamon, G. G. Nedobachii, and K. D. Pokhilko.</u>	432	25
Electronic Apparatus for Automatically Controlling Tube-Rolling Mills. <u>V. V. Volkov, E. Yu. Gutnikov, and M. A. Kostenko.</u>	435	28
New Books.	438	31

METALLURGIST

*A translation of METALLURG, the monthly
industrial technical journal of the
Ministry of Iron and Steel of the USSR*

Translation published March, 1962

No. 10, pp. 455-500

October, 1961

CONTENTS

	PAGE	RUSS. PAGE
The Basis of Modern Industry (Toward Attaining the Production of 250 Million Tons of Steel). <u>M. A. Pertsev</u>	455	1
THE BLAST-FURNACE INDUSTRY		
Estimation and Correction of the Burden during the Process of Blast-Furnace Smelting. <u>A. V. Zagreba, N. F. Slin'ko, and G. I. Fedorenko</u>	459	4
Tuyere Nozzles with Fireclay Linings. <u>A. G. Kuzub and A. M. Bosiek</u>	462	7
Performance Test of a Single-Roll Crusher of New Design. <u>L. M. Rudakov, I. I. Gorstein, and L. M. Freidin</u>	463	9
Errors in Regulating Gas Flow and Distribution of Materials in the Blast-Furnace. <u>V. F. Pashinski</u>	465	10
The Sintering Mill of the Chelyabinsk Metallurgical Plant. <u>E. P. Lyskov</u>	467	12
THE STEELMAKING INDUSTRY		
Firing Open-Hearth Furnaces of the Ukraine with Natural Gas. <u>I. I. Bornatskii</u>	470	15
Melting Oxygen Converter Steel. <u>S. G. Afanas'ev</u>	473	18
The Melting of Natural Alloy Steel. <u>A. F. Leonov, A. N. Morozov, R. M. Ivanov, I. N. Varnavskii, Yu. B. Takhtaev, N. P. Izotov, and S. S. Volkov</u>	475	20
ROLLED AND TUBULAR PRODUCTS		
Rolling-Mill Specialists and the 22nd Conference of the Communist Party of the Soviet Union. <u>B. S. Shapiro</u>	478	22
An Experiment in the Production of High Wear-Resistant Rails. <u>O. M. Rabinovich, V. V. Skakun, and M. S. Shermeister</u>	481	25
Reconstruction of the Three-Zone Continuous Furnaces. <u>E. M. Shvetsov and M. S. Shermeister</u> . . .	483	26
Packing of Sheet Material. <u>V. P. Emel'yanov</u>	485	28
Normalizing of Tubes in the Production Flow. <u>N. G. Mikhaylus'</u>	487	30
HARDWARE PRODUCTION		
New Construction for Wire Rope for Skip Hoists and the Blast-Furnaces of the Magnitogorsk Metallurgical Combine. <u>G. M. Fomin, P. I. Khromov, O. A. Ryabchikova, F. S. Revzina, and V. D. Egorov</u>	488	31
EXPERIENCE OF INNOVATORS		
In the Shops of Communist Labor at the Kuznets Metallurgical Combine. <u>A. Egorichev and S. Znatkov</u>	491	34

CONTENTS (continued)

	PAGE	RUSS. PAGE
Forward and Only Forward.....	493	36
The Most Advanced Experience - To All Steelmakers. <u>N. D. Gromov</u>	495	37
SCHOOL OF ADVANCED EXPERIENCE		
Production of Plate Steel. <u>N. V. Litovchenko and P. I. Plotnikov</u>	497	38

METALLURGIST

*A translation of METALLURG, the monthly
industrial technical journal of the
Ministry of Iron and Steel of the USSR*

Translation Published April, 1962

No. 11, pp. 501-548

November, 1961

CONTENTS

	PAGE	RUSS. PAGE
More Metal for the Nation.	501	1
THE BLAST-FURNACE INDUSTRY		
Errors in Regulating Gas Flow and Distribution of Materials in the Blast-Furnace. <u>I. G. Polovchenko</u>	503	3
<u>M. M. Gladkii</u>	507	7
An Efficient Design of Molds for Casting Machines. <u>S. V. Vasil'ev</u>	509	8
THE STEELMAKING INDUSTRY		
Improvement in the Dephosphorization of Metal during the Melting Period. <u>V. F. Bogatenkov</u> , <u>O. Ya. Vainshtein</u> , <u>B. F. Zverev</u> , and <u>S. G. Firsov</u>	512	11
Increase in the Durability of the Arches of the Open-Hearth Furnace. <u>M. G. Bryunetkin</u> and <u>A. A. Dobrokhoto</u>	514	13
The Replacement of Cast Steel Stoppers by Ceramic Refractories Containing Graphite in the Top- Pouring Steel. <u>A. S. Zhikharevich</u> , <u>A. G. Karaulov</u> , <u>B. I. Panich</u> , <u>I. I. Sheiko</u> , <u>V. F. Polyakov</u> , and <u>S. F. Khalemskii</u>	518	18
ROLLED AND TUBULAR PRODUCTS		
The Rolling of 7-9 Ton Ingots by the Semi-Twin Method on a 1150 mm Slabbing Mill. <u>I. Ya. Tarnovskii</u> , <u>Yu. I. Odinkov</u> , <u>G. G. Kustobaev</u> , and <u>B. D. Sychkov</u>	521	20
Roller Guide Equipment for Rolling Mills. <u>V. A. Drozd</u> , <u>P. I. Tetel'baum</u> , and <u>I. F. Prikhodko</u> . . .	523	22
The Chief Directions of Growth of the Soviet Tube Industry. <u>Yu. M. Matveev</u> and <u>V. P. Markov</u> . .	526	25
Development of the Production of High-Strength Cast-Iron Pipes. <u>V. G. Shiyan</u> and <u>V. A. Davydov</u> . .	528	27
All-Union Conference of Rolling-Mill Operators—Production of Grade-Steel Rolled Goods.	530	29
EXPERIENCE OF INNOVATORS		
The General Design Office of the Chelyabinsk Metallurgical Plant. <u>P. F. Smirnov</u>	534	32
En Route to Increasing the Productivity. <u>G. I. Brodskii</u>	536	33
FOR LABOR SAFETY		
Let Us Constantly Study and Introduce the Positive Industrial Experience in Improving Hygiene of Working Conditions. <u>M. E. Zhilo</u>	539	35
FROM THE HISTORY OF TECHNOLOGY		
M. V. Lomonosov and Ferrous Metallurgy, in Commemoration of His 250th Anniversary. <u>V. B. Yakovlev</u>	544	38
OBITUARY		
Aleksei Mikhailovich Piterskii	546	40

METALLURGIST

*A translation of METALLURG, the monthly
industrial technical journal of the
Ministry of Iron and Steel of the USSR*

Translation Published May, 1962

No. 12, pp. 549-622

December, 1961

CONTENTS

	PAGE	RUSS. PAGE
Toward the Ultimate Goal.	549	1
THE BLAST-FURNACE INDUSTRY		
Change of the Parameters of Charging the Burden While Increasing the Gas Pressure at the Mouth. V. P. Tarasov.	550	2
Smelting Ferromanganese at the Plant "Zaporozhstal". I. D. Balon, V. I. Litvinenko, T. A. Tuluevskaya, and N. T. Romanenko.	552	4
Regulating the Tapping of Molten Iron by Means of a Changing Electromagnetic Field. L. A. Berte.	554	6
THE STEELMAKING INDUSTRY		
The Effect of Rare Earths on the Flaking Sensitivity of Alloy Machine Steels. A. M. Yakushev, Yu. V. Kryakovskii, E. I. Tyurin, S. P. Sorokin, V. I. Yavoiskii, and M. V. Glushtsov	557	9
The Effect of the Mold on the Formation of Cracks in Continuous Ingots. V. P. Druzhinin, D. P. Evteev, and B. N. Katomin.	560	12*
A New Method for Lining and Maintaining the Steel-Tapping Hole. G. I. Baryshnikov	563	15
An Unbound Joint of a Detachable Spout. G. I. Baryshnikov	565	17
In the Steel Melting Mills of the Soviet Union.	566	18
Operation of Electric Furnaces with the Duplex Process. Rudolf Shtefets.	569	21
New Books.	571	22
ROLLED AND TUBULAR PRODUCTS		
Efficiency of Roll-Groove Designs and Mechanization of Rolling on the 500- and 280-Mills. N. P. Skryabin, G. K. Trofimov, I. M. Kochetov, P. A. Baryshnikov, K. I. Anan'in, I. M. Shkurko, B. M. Mints, E. S. Pastukhov, and P. P. Zhelnin	572	23
Open Roll-Groove Design of the Flanged Collar for the ZIL-164 Automobile Wheel. B. M. Ilyukovich and A. N. Skorokhodov	576	27
Roll Durability of Cold-Rolling Mills. A. V. Tret'yakov, R. A. Pozina, and E. A. Garber.	578	29
In the Rolling Shops of the Country	582	33
Sectional Furnaces for High-Speed Heating of Metal. G. A. Podol'skaya, G. D. Karpov, and V. S. Shklyar	586	36
The Shape of Rolled Stock and Corrosion Resistance. B. N. Bobrov.	588	39
FOR LABOR SAFETY		
An Effective Means to Improve Working Conditions (Cooling the Regenerators during Routine Repairs). A. M. Spirina.	590	40
NEW BOOKS		
A Valuable Book. V. K. Gruzinov.	593	42

CONTENTS (continued)

	PAGE	RUSS. PAGE
An Unsuccessful Brochure. <u>G. P. Gromakov</u>	594	42
"Smelting High-Silicon Pig Iron," by Yu. A. Popov.	595	43
"Regenerators of Open-Hearth Furnaces," by I. P. Bab'yas and A. I. Chernogolov.	595	43
"Continuous Pickling Lines," by V. G. Ledkov.	596	43
TABLES OF CONTENTS, 1961.....	599	
AUTHOR INDEX	613	

METALLURGIST

Nos. 1-12, 1961

A Translation of Metallurg

A

- Afanas'ev, S. G., Melting Oxygen Converter Steel - 473
 Akhmadeev, Kh. A., see Nosovitskii, B. M. - 310
 Anan'in, K. I., see Skryabin, N. P. - 572
 Andreyuk, L. V., Optimum Rolling-Schedule for Blooming Mills. Report to Interplant Study Group on Cogging Mills - 38
 Andreyuk, L. V., Experimental Rolling of Ingots in Pairs on the Slabbing Mill - 378
 Antonov, V. K., see Starshinov, B. N. - 66
 Antsyshkin, G. V., Repairing Units of Rolling Equipment - 81
 Asser, Ya. E. and M. M. Shapiro, High-Speed Roll Changing of the Stands of the Continuous Merchant Mill - 133
 Astaf'ev, F. S., Resistance of the Muffles of Bell-Type Furnaces - 85
 Astsaturov, V. N., Heat Insulation of the Hearth Pipes - 188

B

- Bakumenko, S. P., A. M. Svistunov, and E. V. Verkhovtsev, Casting Steel under a Protective Layer of Mica - 420
 Balon, I. D., V. I. Litvinenko, T. A. Tuluevskaya, and N. T. Romanenko, Smelting Ferromanganese at the Plant "Zaporozhstal' " - 552
 Barbashin, B. M., see Yakimenko, G. S. - 327
 Baryshnikov, G. I., A New Method for Lining and Maintaining the Steel-Tapping Hole - 563
 Baryshnikov, G. I., An Unbound Joint of a Detachable Spout - 565
 Baryshnikov, P. A. see Skryabin, N. P. - 572
 Bazilevich, S. V., see Ryazantsev, A. P. - 105
 Bechvarzh, Jaroslav, Increased Production of Czechoslovak Metallurgy - 96
 Beda, N. I. and P. Ya. Ryzhkov, The Quality of Converter Metal - 168
 Beloshabskii, V. I. and A. L. Shteiner, Automatic Control of the Tilting Rate of the Ladle During the Casting of Iron - 212

- Berdnik, A. A., see Lavrent'ev, M. L. - 357
 Berte, L. A., Regulating the Tapping of Molten Iron by Means of a Changing Electromagnetic Field - 554
 Beshlik, A. S., Improving the Quality of Sheet and Plate-Rolls - 274
 Bichuch, A. M., Drawing Wire Rod from Bessemer Metal - 92
 Bikhler, A., The Use of Steam for Boosting Combustion in Open-Hearth Furnaces - 19
 Bobrov, B. N., The Shape of Rolled Stock and Corrosion Resistance - 588
 Bogachev, S. I., see Vasilyev, A. N. - 116
 Bogatenkov, V. F., O. Ya. Vainshtein, B. F. Zverev, and S. G. Firsov, Improvement in the Dephosphorization of Metal during the Melting Period - 512
 Bol'shakov, L. A. and E. K. Turchenkova, Blind-Bottom Molds with Walls of Uniform Thickness - 418
 Borisov, Yu. S., see Sapiro, S. I. - 207
 Bornatskii, I. I., Firing Open-Hearth Furnaces of the Ukraine with Natural Gas - 470
 Borodenchik, N. K., A. I. Dikalov, D. A. Storozhik, and A. M. Khmara, The Triple Bell Hopper - 59
 Borodii, N. P., Mill for Rolling Periodic Shapes - 78
 Borodin, V. P., G. F. Marchenkovskii, P. E. Darmanyan, A. A. Yudson, and B. N. Kurochkin, Operation of a Furnace with Heat Insulated Roof - 69
 Bosiek, A. M., see Kuzub, A. G. - 462
 Brodskii, G. I., En Route to Increasing the Productivity - 536
 Bryunetkin, M. G. and A. A. Dobrokhoto, Increase in the Durability of the Arches of the Open-Hearth Furnace - 514
 Bukhman, Ya. R., Creative Cooperation - 193
 Burdin, I. S., With the Luxembourg Metallurgists - 43
 Byalyi, L. A. and I. P. Yudin, Prediction of the Thermal Conditions of a Blast Furnace during Smelting - 410
 Bykadorov, A. T., A Change in the Design of the Edging Groove - 374

C

- Chamin, I. A., see Tokar', I. K. - 378
 Chechuro, A. N., I. L. Kolesnik, and Yu. F. Yashin,

- Eliminating Pulsating Burning in Air Heaters - 404
 Chechuro, A. N., see Chernov, N. N. - 159
 Chernov, N. N., Errors in the Regulation of Gas Flow - 56
 Chernov, N. N. and A. N. Chechuro, The Optimum Composition of Blast-Furnace Slag at the Southern Plants - 159
 Chikina, V. G., see Khasin, G. A. - 179
 Churilin, M., see Suvorov, G. - 331
 Chusov, B. A., For Economy, Thrift, and Cost Reduction - 53
 Chuzo, N. N., see Gutnikov, É. Yu. - 30

D

- Darmanyan, P. É., see Borodin, V. P. - 69
 Davydov, V. A., see Shiyan, V. G. - 528
 Demidovich, E. A. and N. I. Pindyurin, Rolling Light-Weight Sections on the 550-Mill - 323
 Dikalov, A. I., see Borodenchik, N. K. - 59
 Dobrokhoto, A. A., see Bryunetkin, M. G. - 514
 Drozd, V. A., P. I. Tetel'baum, and I. F. Prikhodko, Roller Guide Equipment for Rolling Mills - 523
 Druzhinin, V. P., D. P. Evteev, and B. N. Katomin, The Effect of the Mold on the Formation of Cracks in Continuous Ingots - 560
 Dubinskii, E. N., see Shalamov, I. I. - 234
 Dvorkind, M. M., see Luzyanin, M. D. - 423

E

- Egorichev, A., In Austria - 394
 Egorichev, A. and S. Znatkov, In the Shops of Communist Labor at the Kuznets Metallurgical Combine - 491
 Egorov, V. D., see Fomin, G. M. - 488
 Emel'yanov, V. P., Improvements in the Equipment of Rolling Shops - 34
 Emel'yanov, V. P., Roller with a Hair Brush for Cleaning Sheets - 83
 Emel'yanov, V. P., In the Blast-Furnace Department of the Magnitogorsk Metallurgical Combine - 161
 Emel'yanov, V. P., Packing of Sheet Material - 485
 Esin, M. I. and V. V. Makrushin, The Working Experience of Senior Foreman D. M. Bartolish - 388
 Evteev, D. P., see Druzhinin, V. P. - 560
 Ezenkin, G., Asbestos Curtains on Charging Machines (Industrial Safety) - 25

F

- Fadeeva, N. I., see Kaibicheva, M. N. - 23
 Fedorenko, G. I., see Slin'ko, N. F. - 210
 Fedorenko, G. I., see Zagreba, A. V. - 459
 Feygin, L. S. and Limina, E. A., The Use of Powdered-Metal Hard Alloys for Heading of Fasteners - 137
 Filippov, S. M., A Powerful Rise in Ferrous Metallurgy - 1
 Filisteev, E., In the Rich Storerooms of the Urals - 400
 Firsov, S. G., see Bogatenkov, V. F. - 512

- Fleyshmakh, A. M., Experience of Operating Gas-Regulating Points - 141
 Fofanov, A. A., see Sapiro, S. I. - 207
 Fomin, G. M., P. I. Khromov, O. A. Ryabchikova, F. S. Revzina, and V. D. Egorov, New Construction for Wire Rope for Skip Hoists and the Blast-Furnaces of the Magnitogorsk Metallurgical Combine - 488
 Freidin, L. M., see Rudakov, L. M. - 463
 Fridman, N. K., see Galemín, I. M. - 257

G

- Galega, S. G., see Shuralev, M. V. - 429
 Galemín, I. M. and N. K. Fridman, The Erosion of Refractory Lining in the Blast-Furnaces of 1719 m³ Volume - 257
 Gal'perin, A. S., Large-Unit Installation of the Superstructure of the Open-Hearth Furnace with Its Refractory Masonry Using a Method of Mounting - 416
 Garambegli, Ishtvan, Ferrous Metallurgy of the Hungarian People's Republic - 398
 Garber, É. A., see Tret'yakov, A. V. - 578
 Gel'fand, I. M. and L. F. Hernandez, Automation of Heat-Treatment Furnaces Operating According to a Present Program - 384
 Gladkii, M. M., Regulating the Operation of the Blast-Furnace by Pressure Drops - 355
 Gladkii, M. M., Errors in Regulating Gas Flow and Distribution of Materials in the Blast-Furnace - 507
 Glushtsov, M. V., see Yakushev, A. M. - 557
 Golubchik, R. M., see Osadchii, V. Ya. - 32
 Gorodetskii, L. N., Reconditioning the Cases of Cutting Torches - 135
 Gorodetskii, L. N., Design of the Parts of an Ore Grab - 407
 Gorodetskii, L. N. and L. S. Zadorozhnyi, An Undriven Stamping Machine on the Rail and Beam Mill - 329
 Gorodetskii, L. N., see Sorokin, V. I. - 190
 Gorshtein, I. I., see Rudakov, L. M. - 55
 Gorshtein, I. I., see Rudakov, L. M. - 156
 Gorshtein, I. I., see Rudakov, L. M. - 463
 Granovskii, Ya. L., Let Us Introduce All That Is Valuable and Advanced - 243
 Gromakov, G. P., An Unsuccessful Brochure - 594
 Gromov, N. D., The Steelmakers of Krivoi Rog - 344
 Gromov, N. D., The Most Advanced Experience - To All Steelmakers - 495
 Gruzinov, V. K., A Valuable Book - 593
 Gubin, G. V., The Magnetizing Calcination of Ores (in countries, members of SEV) - 110
 Gutnikov, É. Yu. and N. N. Chuzo, An Automatic Gage for Measuring the Width of Rolled Products - 30
 Gutnikov, É. Yu., see Volkov, V. V. - 435

H

Hernandez, L. F., see Gel'fand, I. M. - 384

I

- Ilyukovich, B. M., Rolling L-Shaped Steel - 127
 Ilyukovich, B. M. and A. N. Skorokhodov, Open Roll-Groove Design of the Flanged Collar for the ZIL-164 Automobile Wheel - 576
 Isupov, V. F., Pickling Bars without the Use of Inserts - 34
 Ivanov, R. M., see Leonov, A. F. - 475
 Ivanov, V. A., Extending the Life of Slag Pots - 422
 Izotov, N. P., see Leonov, A. F. - 475

K

- Kaibicheva, M. N., N. I. Fadeeva, N. A. Tulin, and M. I. Shatalov, Basic Refractory Wastes—Valuable Raw Material - 23
 Kamenev, R. D. and M. A. Sukonnik, The Operation of "Floating" Coolers in the Stack of a Large Blast Furnace - 10
 Kanamori, Kuro, Reducing the Sulfur Content of Iron in the Blast-Furnace Smelting Process - 8
 Kanfer, V. D. and M. S. Shklyar, Louver-Type Dust-Catchers for Gas Cleaning - 113
 Karaulov, A. G., see Zhikharevich, A. S. - 518
 Karpov, G. D., see Podol'skaya, G. A. - 586
 Karpushinskii, N. S., Dust Extraction in Sintering Plant Fume Chimneys - 63
 Katomin, B. N., see Druzhinin, V. P. - 560
 Kazachkov, E. A., see Sviridenko, F. F. - 218
 Kazakov, A. A., see Kurapin, B. S. - 267
 Kazakov, A. I., see Kozhanov, M. G. - 21
 Khalemskii, S. F., see Zhikharevich, A. S. - 518
 Khan, B. Kh., Casting of Stone - 142
 Kharybin, I. I., see Kryukov, G. N. - 277
 Khasin, G. A. and V. G. Chikina, Production of Rolled Ball-Bearing Steel - 179
 Khil'ko, M. M. and M. S. Shklyar, Heating the Open-Hearth Furnace with a Mixture of Coke-Oven and Natural Gases - 313
 Khinkis, A., see Suvorov, G. - 331
 Khmara, A. M., see Borodenchik, N. K. - 59
 Khokhlov, D. G., Fluxed Sinter with Increased Magnesia Content - 6
 Khristoforov, G. N., see Kurpe, V. I. - 83
 Khromov, P. I., see Fomin, G. M. - 488
 Klablukovskii, A. F. and A. A. Pankratov, Nickel Economy in Electric Steel-Making Production - 120
 Klyucherov, A. P., see Petrov, G. A. - 174
 Klyucherov, A. P., see Kondrat'ev, S. N. - 412
 Knyazev, V. F., Conference on the Direct Extraction of Iron from Its Ores - 411
 Kochetov, I. M., see Skryabin, N. P. - 572
 Kochinev, E. V., The Operation of Large Capacity Blast Furnaces - 42
 Kochinev, E. V., B. N. Starshinov, V. K. Kornev, and Yu. A. Popov, The Blowing-In of Blast-Furnaces of 1719 m³ Volume (based on the reports of an Inter-Works course) - 250
 Kolesnik, I. L., see Chechuro, A. N. - 404
 Kondrat'ev, E. M., see Moiseevich, G. I. - 74
 Kondrat'ev, S. N., A. P. Klyucherov, V. G. Udovenko, I. A. Shirnin, and Zh. A. Vydrina - Rapid Methods of Repairing and Fetting a New Floor - 412
 Kornev, V. K., see Kochinev, E. V. - 250
 Korshunov, V. S., see Luzyanin, M. D. - 423
 Koshka, A. P., A Machine for Assembling and Dismantling Rolls - 236
 Kostenetskii, O. N., Use of Scrap Metal in Converter Production - 216
 Kostenko, M. A., see Volkov, V. V. - 435
 Kotel'nikov, I. V., see Starshinov, B. N. - 306
 Kovalenko, L. I., Four-Step Brick Lining of Steel Ladles - 322
 Kovtun, P. T., On the Selection of Rational Regimes for Reductions in Cold-Rolling Tin-Plate - 130
 Kozhanov, M. G., A. Ya. Raskevich, A. I. Kazakov, and A. M. Kulakov, Flushing the Checkerwork of Large-Capacity Open-Hearth Furnaces - 21
 Kryakovskii, Yu. V., see Yakushev, A. M. - 557
 Kryukov, G. N. and I. I. Kharybin, Furnace for Hardening Rails - 277
 Kudrin, V. A., E. V. Vinnichenko, G. V. Sviderskii, V. P. Tunkov, and O. N. Sokolov, Treatment of Liquid Steel with Solid Synthetic Mixtures - 119
 Kulakov, A. M., see Kozhanov, M. G. - 21
 Kulakov, I. I., An Electric Furnace with Sloping Walls and Split Housing - 165
 Kurapin, B. S. and A. A. Kazakov, All-Union Conference on the Production of Semikilled Steel - 267
 Kurochkin, B. N., see Borodin, V. P. - 69
 Kurpe, V. I. and Khristoforov, G. N., Recuperative Soaking Pits with Top Two-Way Heating - 83
 Kustobaev, G. G., see Tarnovskii, I. Ya. - 521
 Kuzub, A. G. and A. M. Bosiek, Tuyere Nozzles with Fireclay Linings - 462

L

- Laptev, V. K., Preliminary Deoxidation of Tube Steels - 17
 Laptev, V. K., The Rapid Burning-In of New Hearths - 125
 Laptev, V. K. and Z. N. Sarukanyan, The Working Method of Steelworker V. I. Boldyrev - 282
 Lavrenov, V. Z., V. Ya. Tsekhmeister, and S. M. Livshits, A Railroad Car for Transporting Calcine Dolomite - 349
 Lavrent'ev, M. L. and A. A. Berdnik, Flame Pulsation in the Air-Heater Burners - 357

- Lavrent'ev, M. L., see Starshinov, B. N. - 306
 Lekhtik, A. M., A Useful and Necessary Book for Open-Hearth Workers (New Books) - 25
 Leonov, A. F., A. N. Morozov, R. M. Ivanov, I. N. Varnavskii, Yu. B. Takhtaev, N. P. Izotov, and S. S. Volkov, The Melting of Natural Alloy Steel - 475
 Lesenko, I. I., see Sviridenko, F. F. - 218
 Limina, E. A., see Feygin, L. S. - 137
 Litovchenko, N. V., Possible Reductions in Edging Passes - 228
 Litovchenko, N. V. and P. I. Plotnikov, Production of Plate Steel - 497
 Litovchenko, N. V., see Shternov, M. M. - 80
 Litvinenko, V. I., see Balon, I. D. - 552
 Livenets, I. A., Hydraulic Control of Steel Ladle Stopper Mechanism - 316
 Livovarov, Yu. L., "Ferrous Metallurgy in the Czechoslovak Socialist Republic." - 288
 Livshits, S. M., see Lavrenov, V. Z. - 349
 Loginov, V. I., The Movement of Gases and Materials in the Blast-Furnace - 107
 Luzyanin, M. D., M. M. Dvorkind, and V. S. Korshunov, Packed Materials for Lining the Gates of the Charging Windows of the Open-Hearth Furnace - 423
 Lyskov, E. P., The Sintering Mill of the Chelyabinsk Metallurgical Plant - 467

M

- Makrushin, V. V., see Esin, M. I. - 388
 Maksimov, V. L., Rapid Burning-In of Furnace Bottom - 266
 Malikov, K. V., G. N. Suntsov, and V. L. Pishvanov, The Utilization of Fuel Oil in Blast-Furnace Production - 206
 Malykh, A. A., The Protection of Metal Workers from Radiant Heat - 292
 Mamon, L. I., G. G. Nedobachii, and K. D. Pokhilko, Contact Seals for Sealing Rotating Shafts - 432
 Marchenkovskii, G. F., see Borodin, V. P. - 69
 Markov, V. P., see Matveev, Yu. M. - 526
 Matveev, Yu. M. and V. P. Markov, The Chief Directions of Growth of the Soviet Tube Industry - 526
 Mikhaylus', N. G., Normalizing of Tubes in the Production Flow - 487
 Mindlin, B. I., see Svetlitskii, E. A. - 86
 Mints, B. M., see Skryabin, N. P. - 572
 Mironov, P. M., Safety in Blast-Furnace Production - 359
 Moiseevich, G. I. and E. M. Kondrat'ev, Improving the Tongue of Flame in the Working Space - 74
 Morozov, A. N., see Leonov, A. F. - 475

N

- Naftulovich, S. M., Experimental Rolling of Thick Plates from Converter Steel - 431

- Naidenov, A. S., see Trishevskii, I. S. - 271
 Nedobachii, G. G., see Mamon, L. I. - 432
 Nekrasov, S. G., see Shuralev, M. V. - 177
 Nekrasov, S. G., see Shuralev, M. V. - 429
 Nesmachnyi, A. N., The Use of Rolls Built Up by Welding - 231
 Nosov, V. A. and N. N. Vlasov, The Reduction of Transverse Cracks in Structural Steel Ingots - 424
 Nosovitskii, B. M., T. I. Papin, V. D. Tsys', and Kh. A. Akhmadeev, Blowing-In the Blast-Furnace on Ferromanganese - 310

O

- Odinokov, Yu. I., see Tarnovskii, I. Ya. - 521
 Okhotnikov, P. G., see Sapiro, S. I. - 207
 Orlov, Yu. A., Errors in Gas Flow Control and Burden Distribution - 255
 Osadchii, V. Ya. and R. M. Golubchik, Lubrication in Tube Rolling - 32

P

- Palaguta, F. V., A New Design of a Mold Trolley - 72
 Pal'shin, M. V., Elimination of Dust from the Working Stand of a Mill - 192
 Panich, B. I., see Zhikharevich, A. S. - 518
 Pankratov, A. A., see Kablukovskii, A. F. - 120
 Pan'shin, M., The People Decide Everything - 389
 Papin, T. I., see Nosovitskii, B. M. - 310
 Pasechnik, V. K., An Efficient Technology for Grinding Rolled Steel - 186
 Pashinskii, V. F., Improvements in the Design of Junctions and Parts of Pouring Machines - 408
 Pashinskii, V. F., Errors in Regulating Gas Flow and Distribution of Materials in the Blast-Furnace - 465
 Pastukhov, E. S., see Skryabin, N. P. - 572
 Pertsev, M. A., The Basis of Modern Industry (Toward Attaining the Production of 250 Million Tons of Steel) - 455
 Petrov, G. A., A. P. Klyucherov, and B. N. Shisharin, Cleaning the Regenerator Checkerworks of Open-Hearth Furnaces - 174
 Pindyurin, N. I., see Demidovich, E. A. - 323
 Pishvanov, V. L., see Malikov, K. V. - 206
 Plechun, G. V., Moving Forward - 439
 Plotnikov, P. I., see Litovchenko, N. V. - 497
 Podol'skaya, G. A., Experience in Operating a 400 Ton Open-Hearth Furnace on High-Pressure Natural Gas - 261
 Podol'skaya, G. A., G. D. Karpov, and V. S. Shklyar, Sectional Furnaces for High-Speed Heating of Metal - 586
 Podzerko, V. A., In the Land of Constant Sunshine - 197
 Podzimen, B., see Zyupits, G. - 369
 Pokhilko, K. D., see Mamon, L. I. - 432

Polovchenko, I. G., Errors in Regulating Gas Flow and Distribution of Materials in the Blast-Furnace - 503

Polyak, I., The Fourth Plenum of the Scientific-Technical Societies of Ferrous and Nonferrous Metallurgy - 202

Polyakov, V. F., see Zhikharevich, A. S. - 518

Popov, Yu. A., see Kochinev, E. V. - 250

Pozina, R. A., see Tret'yakov, A. V. - 578

Prikhodko, I. F., see Drozd, V. A. - 523

Prikhozhenko, A. E., Experience in Operating Open-Hearth Furnaces with Natural Gas - 362

Prikhozhenko, A. E., see Shalamov, I. I. - 234

Prikhozhenko, G. E., see Shalamov, I. I. - 234

R

Rabinovich, O. M., V. V. Skakun, and M. S. Shermeister, An Experiment in the Production of High Wear-Resistant Rails - 481

Rakin, I. A. and P. A. Zorkin, Mechanization of Furnace Repairs at the "Serp i Molot" Plant - 442

Raskevich, A. Ya., see Kozhanov, M. G. - 21

Revzina, F. S., see Fomin, G. M. - 488

Romanenko, N. T., see Balon, I. D. - 552

Rudakov, L. M. and I. I. Gorshtein, The Screening of Hot Sinter - 55

Rudakov, L. M. and I. I. Gorshtein, The Effect of Material Transfer on the Change in Sieve Composition of Sinter - 156

Rudakov, L. M., I. I. Gorshtein, and L. M. Freidin, Performance Test of a Single-Roll Crusher of New Design - 463

Rudnev, A., Good Health and Safe Working Conditions for Metallurgical Workers - 247

Ryabchikova, O. A., see Fomin, G. M. - 488

Ryazantsev, A. P., Yu. V. Simakov, and S. V. Bazilevich, Improved Sintering Charge Ignition - 105

Ryzhkov, P. Ya. and R. M. Shereshevskaya, Surface Defects in Rolling - 229

Ryzhkov, P. Ya., see Beda, N. I. - 168

S

Sapiro, S. I., A. A. Fofanov, P. G. Okhotnikov, and Yu. S. Borisov, The Utilization of Fuel Oil in Blast-Furnace Production - 207

Sarukanyan, Z. N., see Laptev, V. K. - 282

Shalamov, I. I., E. N. Dubinskii, A. E. Prikhozhenko, and G. E. Prikhozhenko, The Conversion of Reheating Furnaces from Fuel Oil to Natural Gas - 234

Shandrenko, G. I., Increasing the Productivity of Labor of the Repair Workers - 446

Shapiro, B. S., Rolling-Mill Specialists and the Twenty-Second Conference of the Communist Party of the Soviet Union - 478

Shapiro, M. M., see Asser, Ya. E. - 135

Shapoval, I., Creative Daring - 140

Shatalov, M. I., see Kaibicheva, M. N. - 23

Sheftel', N. I., New Techniques at the Ferrous Metallurgy Plants of the Russian Soviet Federated Socialist Republic (RSFSR) in 1961 - 203

Sheiko, I. I., see Zhikharevich, A. S. - 518

Sheleketin, A. V. and A. M. Shevchenko, At the YuGOK Sintering Plants - 13

Shereshevskaya, R. M., see Ryzhkov, P. Ya. - 229

Shermeister, M. S., see Rabinovich, O. M. - 481

Shermeister, M. S., see Shvetsov, E. M. - 483

Shevchenko, A. M., see Sheleketin, A. V. - 13

Shifrin, M. Yu, Increase in Production Capacity of a Wheel-Rolling Mill - 232

Shirnin, I. A., see Kondrat'ev, S. N. - 412

Shisharin, B. N., see Petrov, G. A. - 174

Shiyan, V. G. and V. A. Davydov, Development of the Production of High-Strength Cast-Iron Pipes - 528

Shklyar, M. S., see Kanfer, V. D. - 113

Shklyar, M. S., see Khil'ko, M. M. - 313

Shklyar, V. S., see Podol'skaya, G. A. - 586

Shkurko, I. M., see Skryabin, N. P. - 572

Shokin, A. M., Large Metallurgical Center of the Korean People's Democratic Republic - 144

Shtefets, Rudolf, Operation of Electric Furnaces with the Duplex Process - 569

Shteiner, A. L., see Beloshabskii, V. I. - 212

Shternov, M. M. and N. V. Litovchenko, Spreading Passes on a Strip Mill - 80

Shulaev, I. P., Designing Box Passes - 183

Shulaev, I. P., Elongation in a Rectangular Pass - 227

Shuralev, M. V. and S. G. Nekrasov, Economical Rolled Shapes from Alloy Steel - 177

Shuralev, M. V., S. G. Nekrasov, and S. G. Galega, A New Economical Profile, GK-06 - 429

Shvetsov, E. M. and M. S. Shermeister, Reconstruction of the Three-Zone Continuous Furnaces - 483

Simakov, Yu. V., see Ryazantsev, A. P. - 105

Sinitskii, V. I., see Starshinov, B. N. - 306

Skakun, V. V., see Rabinovich, O. M. - 481

Skorokhodov, A. N., see Ilyukovich, B. M. - 576

Skryabin, N. P., G. K. Trofimov, I. M. Kochetov, P. A. Baryshnikov, K. I. Anan'in, I. M. Shkurko, B. M. Mints, E. S. Pastukhov, and P. P. Zhelnin, Efficiency of Roll-Groove Designs and Mechanization of Rolling on the 500- and 280-Mills - 572

Slin'ko, N. F. and G. I. Fedorenko, Increasing the Stability of Pastes for Tapping Holes and Troughs - 210

Slin'ko, N. F., see Zagreba, A. V. - 459

Smimov, P. F., The General Design Office of the Chelyabinsk Metallurgical Plant - 534

Smolyarenko, V. D. - Automating the Teeming of Steel - 425

Sokolov, E. V., see Kudrin, V. A. - 119

Sorokin, S. P., see Yakushev, A. M. - 557

Sorokin, V. I. and L. N. Gorodetskii, Device for Manipulating Strip - 190

- Soroko, L. N., see Trishevskii, I. S. - 271
- Spirina, A. M., An Effective Means to Improve Working Conditions (Cooling the Regenerators during Routine Repairs) - 590
- Stadnik, F., A Contribution of the Efficiency Experts of the "Elektrostal'" Plant - 244
- Starshinov, B. N. and V. K. Antonov, All Union Conference of Blast-Furnace Operators and Sinter-Plant Operators - 66
- Starshinov, B. N., I. V. Kotelnikov, V. I. Sinitskii, M. L. Lavrent'ev, and V. D. Sinitskii, Blast-Furnace Operation with the Addition of Natural Gas to the Blast - 306
- Starshinov, B. N., see Kochinev, E. V. - 250
- Storozhik, D. A., see Borodenchik, N. K. - 59
- Subbotin, N., Advance Guards on the Future Reach New Frontiers - 338
- Sukonnik, M. A., see Kamenev, R. D. - 10
- Suntsov, G. N., see Malikov, K. V. - 206
- Suvorov, G., A. Khinkis, and M. Churilin, Outstanding Metallurgists - 331
- Svetlitskii, E. A. and B. I. Mindlin, Increasing the Quality of Thin-Walled Tubes - 86
- Sviderskii, G. V., see Kudrin, V. A. - 119
- Sviridenko, F. F., E. A. Kazachkov, N. P. Vasil'kovskaya, and I. I. Lesenko, A Hot Top with Air Spaces in the Wall - 218
- Svistunov, A. M., see Bakumenko, S. P. - 420
- Sychkov, B. D., see Tamovskii, I. Ya. - 521

T

- Takhtaev, Yu. B., see Leonov, A. F. - 475
- Tarasov, V. P., Change of the Parameters of Charging the Burden While Increasing the Gas Pressure at the Mouth - 550
- Tarnovskii, I. Ya., Yu. I. Odínokov, G. G. Kustobaev, and B. D. Sychkov, The Rolling of 7-9 Ton Ingots by the Semi-Twin Method on a 1150 mm Slabbing Mill - 521
- Tetel'baum, P. I., see Drozd, V. A. - 523
- Tokar, I. K. and I. A. Chamin, Effective Lubricants for Rolling Thin Steel Sheet - 378
- Tret'yakov, A. V., R. A. Pozina, and É. A. Garber, Roll Durability of Cold-Rolling Mills - 578
- Trishevskii, I. S., L. N. Soroko, and A. S. Naidenov, The Production of Economic Cold-Bent Sections - 271
- Trofimov, G. K., see Skryabin, N. P. - 572
- Troshchenkov, N. A., see Yudin, M. I. - 27
- Tsekhmeister, V. Ya., see Lavrenov, V. Z. - 349
- Tsys', V. D., see Nosovitskii, B. M. - 310
- Tulin, N. A., see Kaibicheva, M. N. - 23
- Tuluevskaya, T. A., see Balon, I. D. - 552
- Tunkov, V. P., see Kudrin, V. A. - 119
- Turchenkova, E. K., see Bol'shakov, L. A. - 418
- Tyurin, E. I., see Yakushev, A. M. - 557

U

- Udovenko, V. G., see Kondrat'ev, S. N. - 412

V

- Vainshtein, O. Ya., see Bogatenkov, V. F. - 512
- Varnavskii, I. N., see Leonov, A. F. - 475
- Vasil'ev, S. V., An Efficient Design of Molds for Casting Machines - 509
- Vasil'kovskaya, N. P., see Sviridenko, F. F. - 218
- Vasilyev, A. N. and S. I. Bogachev, The Use of Titanium Sponge in the Deoxidation of Steel - 116
- Verkhovtsev, É. V., see Bakumenko, S. P. - 420
- Vikhrev, I. D., The Regulation of Overhauls of the Open-Hearth Furnace - 365
- Vikhrev, I. D., Construction of a Metallurgical Combine in Bulgaria - 448
- Vinnichenko, E. V., see Kudrin, V. A. - 119
- Vinogradov, Yu. A., Installing Air Heaters in a Large Blast Furnace - 406
- Vlasov, N. N., see Nosov, V. A. - 424
- Volkov, S. S., see Leonov, A. F. - 475
- Volkov, V. V., E. Yu. Gumnikov, and M. A. Kostenko, Electronic Apparatus for Automatically Controlling Tube-Rolling Mills - 435
- Vydrina, Zh. A., see Kondrat'ev, S. N. - 412

Y

- Yakimenko, G. S. and B. M. Barbashin, Stamping Metal in the Production Line - 327
- Yakovlev, V. B. M. Lomonosov and Ferrous Metallurgy, in Commemoration of His 250th Anniversary - 544
- Yakushev, A. M., Yu. V. Kryakovskii, E. I. Tyurin, S. P. Sorokin, V. I. Yavoiskii, and M. V. Glushtsov, The Effect of Rare Earths on the Flaking Sensitivity of Alloy Machine Steels - 557
- Yampol'skii, M. I. and E. V. Ivanov, Some Problems in the Technology of the Basic Converter Process - 48
- Yashin, Yu. F., see Chechuro, A. N. - 404
- Yavoiskii, V. I., see Yakushev, A. M. - 557
- Yudin, I. P., see Byalyi, L. A. - 410
- Yudin, M. I. and N. A. Troshchenkov, Ground Stainless Steel Plates - 27
- Yudson, A. A., see Borodin, V. P. - 69

Z

- Zadorozhnyi, L. S., see Gorodetskii, L. N. - 329
- Zagreba, A. V., N. F. Slin'ko, and G. I. Fedorenko, Estimation and Correction of the Burden during the Process of Blast-Furnace Smelting - 459
- Zhelmin, P. P., see Skryabin, N. P. - 572
- Zhikharevich, A. S., A. G. Karaulov, B. I. Panich, I. I. Sheiko, V. F. Polyakov, and S. F. Khalemskii, The Replacement of Cast Steel Stoppers by Ceramic Refractories Containing Graphite in the Top-Pouring Steel - 518

Zhilo, M. E., Let Us Constantly Study and Introduce the Positive Industrial Experience in Improving Hygiene of Working Condition - 539

Zinov'ev, A. F., Mechanization of the Dressing and Finishing Sections - 391

Znatkov, S., see Egorichev, A. - 491

Zorkin, P. A., see Rakin, L. A. - 442

Zubkov, S. S., Experience in the Campaign to Reduce the Cost of Steel (Read at the Conference of Metallurgists of the Chelyabinsk Council of People's Commissars) - 320

Zverev, B. F., see Bogatenkov, V. F. - 512

Zyuptits, G. and B. Podzimen, Packing the Floor of the Open-Hearth Furnace with Powdered Dolomite (Translated from German) - 369